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OF THE UNIVERSITY OF MARYLAND

Vol. XI BALTIMORE, MD., NOVEMBER 15, 1915 No. 9

THE ONE HUNDRED AND TENTH
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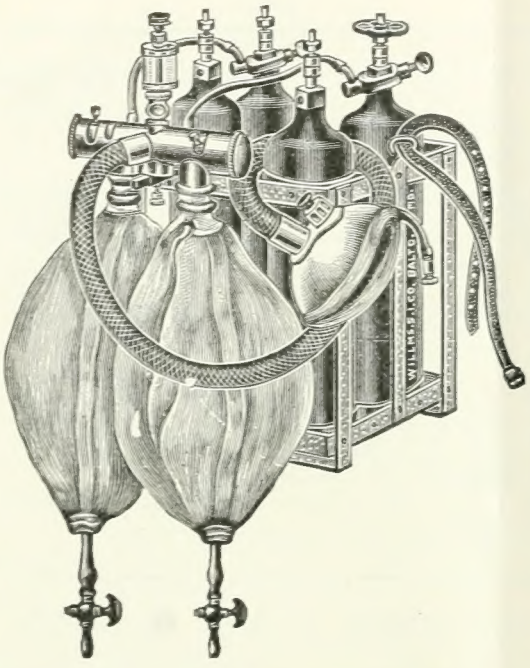

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CONTENTS

ORIGINAL ARTICLES—

The Errors of the Single Test-Meal Method and the Advantages of Fractional Gastric Analysis. Albert Hynson Carroll, M.D... 145

Surgical Experimentation Upon Animals. Louis W. Kohn, M.D..... 151

EDITORIALS 154

Let Us List You.

The David Streett Memorial Scholarship.

CORRESPONDENCE 154

Westward Ho! (Part IV.) Randolph Winslow.

ITEMS 156

BIRTHS 160

MARRIAGES 160

DEATHS 161

BOOK REVIEWS..... 162

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THE ERRORS OF THE SINGLE TEST-MEAL METHOD, AND THE ADVANTAGES OF FRACTIONAL GASTRIC ANALYSIS.

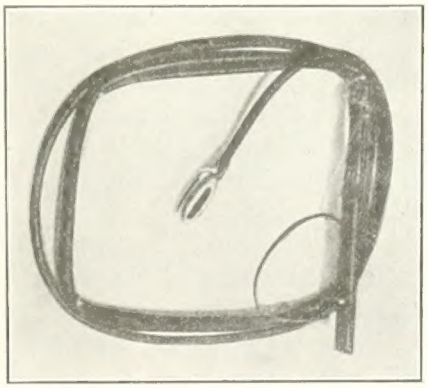
By ALBERT HYNSON CARROLL, M.D.
(Department of Gastroenterology, University of Maryland.)

Someone has said that all physicians may be divided into three classes regarding their attitude towards laboratory work in diagnosis—optimists, pessimists and the normal man. The optimists rely too much upon the laboratory, either from lack of experience or because they specialize in this field. The pessimists are disappointed optomists, while the normal man has usually passed through these two stages.

Since this paper will call attention to the shortcomings of one laboratory method which has been keenly disappointing to many, it may be instructive to some pessimists and afford a new viewpoint to the optimists as well. The method in question is the "single test-meal examination." Its limitations will be pointed out and the reasons for its ill-repute demonstrated. Later the newer method of gastric analysis, now known as "fractional gastric analysis," will be reviewed and its advantages illustrated.

Perhaps in no other field than that of gastroenterology have so many special methods been devised as an aid to accurate diagnosis. The X-ray, the string test, gastroscopy, esophagoscopy, sigmoidoscopy, examinations of the blood, urine and feces may serve as illustrations of those methods which belong to the laboratory and the specialist, while the investigation of the gastric contents after a test-meal has always been regarded as absolutely essential.

The gastroenterologist has come to embrace almost the entire abdomen in his studies, because, with the development of his specialty, it has become more and more evident that pathological conditions existing in almost any part of it may *manifest themselves either directly or reflexly* in a symptomatology which is reflected chiefly in



THE REHFUSS TUBE FOR FRACTIONAL GASTRIC ANALYSIS.
(After Rehfuss.)

disturbed gastric functioning. His patients come to him with a chain of symptoms which have been found to fit such a diversity of fundamental pathological conditions that to make an accurate diagnosis from the symptoms alone is, as a rule, entirely out of the question. Without the aid of special methods we would have progressed but little since days of our grandfathers.

He has not lost sight of the value of the role played by the study of the objective and subjective symptoms, but at present his success de-

pends in no small way in being able to discover many conditions which are embraced in the fields of other specialists. To do this it is necessary that he be familiar with practically all of the special methods and laboratory aids, and he must be able to ascribe a proper value to the information received from all sources. In this lies some danger of his becoming a laboratory optimist. But it is not the gastroenterologist who has brought certain laboratory methods into ill-repute with some and under grave suspicion with others. It is the man who, when unable to diagnose his case, has come as a last resource to the laboratory, and has demanded that the X-ray alone, or the test-meal, or the blood, urine and feces examinations tell the tale for him. This person usually grasps at some isolated straw of positive or negative information and scurries away to construct a diagnosis around it. No wonder that failure is so often the result, and the rankest kind of pessimism follows him to his grave.

When the symtomatology—which must always play a most important role—and laboratory methods also have not enabled the physician to discover any definite lesion, it was not uncommon in the past to hear almost constantly of "this or that neurosis," but, although there are definite unqualified neuroses, we hear less and less of them as time passes. More accurate diagnostic methods have enabled us to recognize and locate more actual lesions, with the result that the "neuroses" from a rapidly-diminishing shield for the poorly-informed, the ignorant ones and the quacks to hide behind.

With a mild excuse for these generalities, we will approach the review of the subject of test-meals and the recent development of the older method, which has given us "fractional gastric analysis."

It may be well to first call attention to the guiding axiom of the gastroenterologist in making use of test-meals as an aid to diagnosis. That is, *that a definite stimulus produces practically always a constant response under similar conditions, and also that anatomic changes result almost always, although not invariably, in a change of function. He has appreciated that if the gastric response did not in a way reflect the condition of this organ, it would be the first organ which did not follow known physiologic laws.*[1] There is but one way open to us for studying the functioning of the stomach, and this is by investigating chemically, microscopically and micro-chemically the gastric contents after the ingestion of test-meals. We all appreciate that these studies of "one-hour specimens" have some value, otherwise the test-meal method would have been cast upon the experimental rubbish heap years ago. The merit, however, is small, for, although founded upon scientific principles, the technique is not scientifically or accurately executed. We now know that it is an incomplete method and overflowing with errors.

The "free HCl" and the "total acid" content of the single meal has always attracted the intense interest of the investigator. He has appreciated that the acid content is a fair index to the enzymic properties of the gastric juice. Again, he has come to definitely associate certain conditions with certain percentages of acid. This, no doubt, is due to the way certain claims and pure myths have of becoming fixed in the mind at an early stage and grow to larger dimensions as time goes on. Even now it is not at all uncommon to come across persons who are quite surprised that a hyperchlorhydria does not as a rule spell "ulcer," and that an anacid condition does not almost invariably point to "cancer." These are the views of the extreme optimists who have had but a limited experience. It were better for their patients were these ardent pessimists.

However, the normal man has kept it properly balanced in his mind that there is some relationship between irritation, be it from ulcer or otherwise, and an excess of hydrochloric acid, and likewise that there is an absence of or lessened HCl content in many cases of gastric cancer. These are the workers who have attempted to gather from their statistics just what relationship does exist, and to tabulate this information, so that it may serve as a diagnostic guide.

It has been a matter of surprise and disappointment to discover that the findings of the "acid content" from a number of the largest clinics not only do not agree, but differ widely in the tabulated results. This observation is directly opposite to what is anticipated if the physiologic law relating to the response to definite stimuli in various other organs holds good for the stomach also.

The question arises, is it the law which is at fault, or has our method and its interpretation been erroneous? The answer follows:

[1]Matrin E. Rehfuss: *Jour. A. M. A.*, Feb. 13, 1915. Gastro-intestinal Studies.

First—It has long been known, from experimentation on man and animals, that in normal persons the height of digestion occurred at about one hour after the ingestion of a test-meal. It was then that the HCl was present in the largest amount.

Second—It was also known that digestion—that is, the secretion or formation of the digestive ferments—began soon after ingestion of food, increased to a certain point and gradually declined.

Third—Although the acid content was considered of great moment, *we did not concern ourselves* to any great extent to determine its presence in pathological cases, but were content to discover what it happened to be at the *one-hour period*. Whether this acme arrived before or later than the time of aspiration was of no great concern. The case was called one of hyper or hypochlorhydria, according to the acid content at this one period.

Fourth—Mucus and bile also were matters of importance to us, yet bleeding may have taken place after the test was drawn. The report would then have been "no blood." The same holds good for bile. What should a report of the free HCl content be if there was present no naturally secreted HCl, but some that had regurgitated into the stomach, the contents of circulating alcohol, duodenal contents?

Fifth—We must also consider the large errors resulting from the retention of mucus and food remnants to contaminate the specimen, and opportunities for trauma, with resulting bleeding.

These are some of the more frequently-encountered errors we meet. In these are [illegible] small wonder that the results did not agree from the various clinics, and that conclusions based upon such elemental findings as the free and combined acids, arrived at with a method which was so full of pitfalls, have been so universally confusing.

All of these things were known or suspicioned, and yet we clung to the single test-meal method as the only means at our disposal for the study of the functional capacities of the stomach. As we say, there had been no better procedure practicable. Recognizing that we have a technique which will surmount these difficulties, let us urge that its merits be fully appreciated, and that it be given its place among the really valuable diagnostic methods. Many definite conclusions can be drawn from its general employment in all conditions where there is reason to think we are dealing with altered gastric functioning. It will not only aid in arriving at a diagnosis, ofttimes obscure, but it will furnish us a very valuable index regarding the palliative treatments where pain and discomfort are immediately due to altered secretions.

THE METHOD AND TECHNIQUE OF FRACTIONAL GASTRIC ANALYSIS.

The method depends upon the examination of specimens of a test-meal which have been aspirated at definite and frequent intervals after the ingestion of the meal throughout the entire period of digestion. Upon examination of these specimens a curve is plotted, which represents graphically the functional and enzymic capacities of the stomach during a digestive cycle. The apparatus used is a slender rubber tube, to which is attached a small olive-shaped but heavy metal tip or bulb. This tip is slotted longitudinally, and is a modification by Rehfuss of the well-known duodenal tip devised by Einhorn for duodenal intubation. The large slots allow of aspiration of well-masticated food particles, which pass readily up into the glass aspirating syringe when a moderate negative pressure is created.

The tip or bulb is placed well back on the tongue, and is readily swallowed, and may be retained for hours in the stomach without any real discomfort being experienced by the patient. It may be allowed to enter the duodenum through the pyloric opening to secure duodenal contents at any time for examination. Through it any part or all of the ingested test-meal can be recovered at the will of the operator.

TECHNIQUE.

The patient is given a dish of rice to eat [illegible] before the examination is to be made. The next morning the tube is introduced and the contents of the fasting stomach withdrawn. Starch granules may be discovered macroscopically or microscopically by the addition of a few drops of iodine. The specimen should be examined for free HCl,

total acid, color, bile, blood, yeast cells, bacteria and amount.

The patient may now be given a glass of water (about 10 ounces) to drink and specimens drawn every 5 minutes until three have been secured, and then at 10 or 15-minute intervals until the stomach is empty. Examinations of these will furnish percentages for the construction of the curve.

The tube may now be withdrawn and a test-meal of one small slice of toast and 10 ounces of tea given. The tube is again introduced and the aspiration of small samples carried out as in the "water test-meal," and a second curve plotted.

The whole procedure oulined above will usually occupy about five hours. The work is tedious, and there are minor details of technique which must be accomplished through practice, but there is nothing difficult about it. The curve obtained is a graphic representation of what has transpired functionally, and is well worth the time and trouble expended.

Dr. Rehfuss, working with Bergeim and Hawk, experimented upon a large number of perfectly well persons, and discovered that there are three great types of curves. Curves which differ from these indicate pathological conditions. He has differentiated and described them as follows: The "isosecretory," the "hypersecretory" and the "hyposecretory."

These curves present as graphic a picture of the enzymic functioning of the stomach as is the picture of the "mechanics" of the stomach and cap when demonstrated by the X-ray cinematographic photographs of the bismuth-laden stomach (a method developed by Lewis Gregory Cole).

TYPES OF CURVES.

First—The "isosecretory" type, which shows a steady rise, with a high point of 60 degrees, in terms of 1/10 normal sodium hydroxide. It is usually sustained for from one-half to one hour, and then begins a gradual decline, with a total disappearance of the food residue in two to two and one-half hours. Its high point or acme is usually rounded. The curve is not broken.

Second Type—This is the "hypersecretory" type, and shows a rapid response to stimuli, with a rapid change in acidity even in 5-minute samples. The high point is 70 to 100 degrees or over, either sustained or abrupt, and a slow decline, or none at all, in the usual time.

The third type, or hyposecretory type, is similar to the first, but there is usually a slower ascent, slower response to stimuli and a high point of 40 to 50. Digestion is usually completed in two to two and one-half hours.

While there is a wide variation in the acidity exhibited in these types, it is noted that there is little variation in motor power or tone.

It is the establishment of a type which is the important thing. Deviations bespeak pathological conditions. The deviation may be in one of four ways, or in several:

1. In the period of ascension. This usually occupies the first 30 minutes, and indicates the response to stimuli.
2. Alteration in the character and height of the high point or acme. This may be (a) accelerated, (b) retarded, or (c) abrupt, and (d) sustained.
3. The period of descent or decline, and
4. The character and modification of the food residues.[2]

The unreliability of the "one-hour meal" may be better comprehended if a study is made of the possibilities of the variations which may occur. It is seen from these that the "acme" may precede or follow the one-hour period, and yet the specimen drawn at this time shows what is now known to be normal free HCl content. And again that the HCl may have been normal for the maximum at each period before the hour, but may remain a continued secretion of the same degree of acidity, or continue to rise afterwards. It is essential that all these possibilities are appreciated before a real conception of the various curves of gastric cycles can be had.

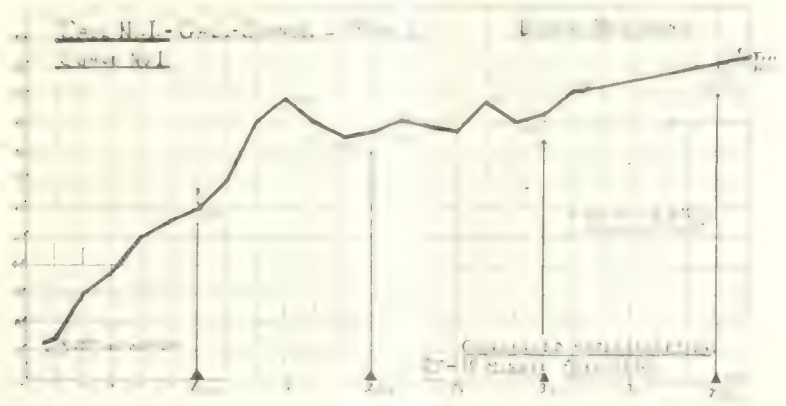
Fractional gastric analysis will not solve all the problems, or answer all the questions demanded of it, but with it we may secure a concise and accurate picture of exactly what transpires functionally during digestion in our patients.

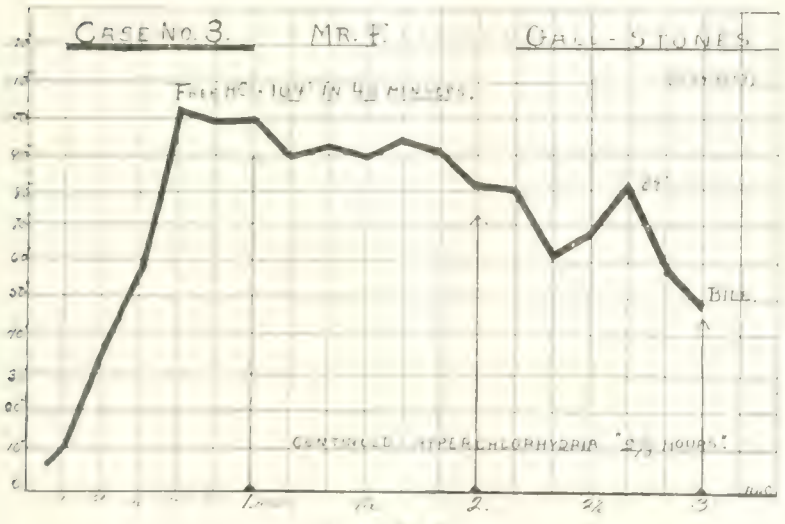
Some very interesting curves have been secured, and the diagnosis of the cases confirmed in a number of instances at operation.[3]

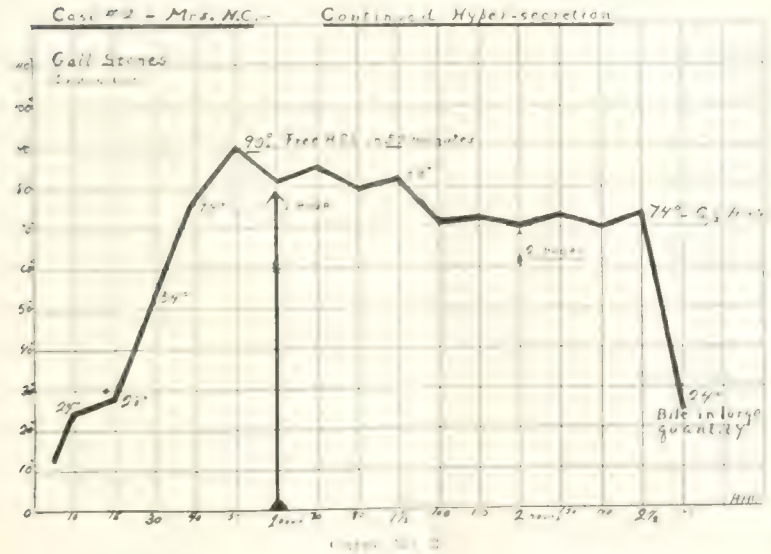
In three "gallstone" cases there was a continued

[2] I have taken the liberty of borrowing the above descriptions directly from Rehfuss' published work, and have incorporated many other thoughts and expressions also in this digest.

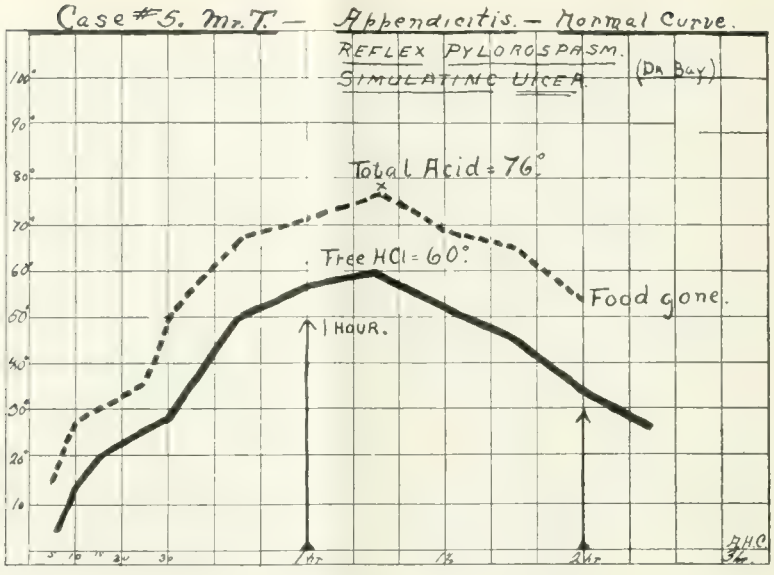
[3] Fractional Gastric Analysis and Gall Stone Disease: Medical and Chirurgical Faculty, annual meeting, April, 1915.







CURVES DEMONSTRATING CONTINUED HYPERSECRETION.

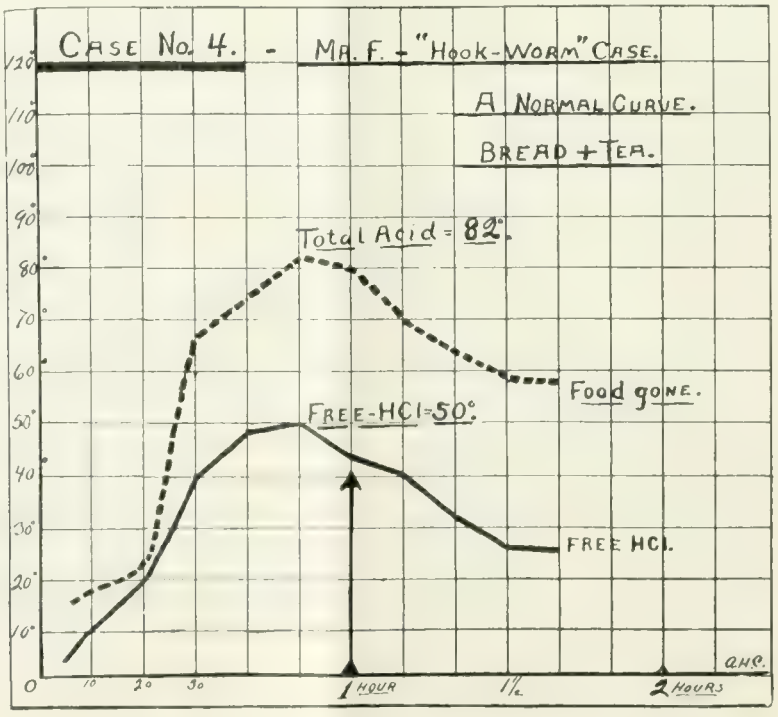


Curve No. 4.

hypersection, No. 1, No. 2 and No. 3 in one of chronic post-cecal appendix, No. 4 the curve was perfectly normal, although the X-ray pictures demonstrated a spasm which appeared to be a permanent stenosis of the pylorus. The symptoms in this case also were those of obstruction at the pylorus, and simulated cancer. Another was a case of hookworm. Here the curve was again normal. No. 5.

The method is somewhat tedious, requires a large amount of time, but offers no difficulties which cannot be readily overcome with practice.

The time consumed is the only objection which can be raised against it. It has already been stated that the technique, although tedious, is not difficult to acquire. By "grouping" the cases to be examined, and with one assistant, the work is much lightened. Like all other laboratory pro-



Curve No. 5.

It has been discovered from its application to [illegible] by the originator, *that an acid [illegible] gives in terms of decinormal NaOH is an unusual [illegible] has been called, was hyperchlorhydria, which did not belong in that class. Also it is interesting to know that when pure gastric juice and test meal are mixed, the acidity of the mixture is approximately that of pure gastric juice, and present as high an acidity as will a meal of pure beef juice,* when introduced through the tube. It is now known that "achylia gastrica" and the absence of HCl in the stomach is a much rarer condition than was formerly supposed. Usually there is HCl to be found, but frequently it is a question of "delayed secretion," and the acid does not appear until after the usual "one-hour single test meal" had been drawn.

If there was nothing else accomplished by the introduction of the fractional method than to teach us the normal, it would have filled a most useful purpose. What it holds in store is as yet not fully determined. There appears to me to have been no other method which is so full of promise to the gastroenterologist which has been introduced since the X-ray method of diagnosis. The two must go hand in hand. One gives us [illegible] of the mechanical factors, while the other furnishes a definite picture of the enzymic functioning in normal and pathological gastric conditions.

The method has been introduced by me into the University of Maryland gastroenterological clinic, and the technique of Rehfuss followed. A [illegible] in the August issue of the *Maryland Medical Journal.*

Dr. C. Hampson Jones, Professor of Hygiene and Public Health for [illegible] Health Commissioner of Baltimore City, has been appointed chief of the bureau of communicable diseases in the State Health Department, to take effect from November 1. Dr. Jones is regarded as one of the ablest health officers in the country, being an expert in the work.

SURGICAL EXPERIMENTATION [illegible] ANIMALS *

By [illegible] M. D. [illegible]

By animal surgery only can we ever hope to eliminate experimental human surgery. There is no knowledge more useful to the physician and surgeon than knowledge of himself. By means of it he can promote the future welfare of his en[illegible] organism. Now, if such be the case concerning himself, why cannot this knowledge similarly influence the lives and bodies of his patients, and even further than that, of the entire human race. Years of patient study and investigation on the part of scientific explorers have revealed wonders which have revolutionized and benefited both medicine and surgery. These workers in scientific research have clearly demonstrated that human beings are animals, and have even gone further by proving the kinship of all animals. It is, therefore, very evident that by advancing our knowledge of the lower animals we learn more of ourselves, a fact we need not be ashamed of. Something that has a bearing on man can always be learned from every living thing.

Animal experimentation has built up the science known as biology, which treats of living beings, and embraces all those branches upon which our profession is founded, viz., anatomy, physiology, histology, embryology, chemistry and physics. By study and investigation of these various branches we have become acquainted with the existence of morbid processes which affect the animal world. Then, of course, further animal experimentation had to be resorted to in order to effect a cure of these diseased conditions. One of the methods of accomplishing this is the mechanical art known as surgery.

We all have heard of the wonderful advances made in the various departments of the sciences. Alexis Carrel, of the Rockefeller Institute, and others have done very notable work upon animals, the results of which have gained for them [illegible] distinction and honor. Physiologists have carried out experiments upon animals, which have brought them fame, and pathologists and bacteriologists have become [illegible] the importance of this work that it has become indis-

* [illegible] 1915.

pensable in their researches. Of course, I do not intend to delve into all the branches in which animal experimentation may be an invaluable aid in promoting scientific progress. I refer only to that part of the subject with which I have been rather closely connected, and it is, therefore, only from the surgical aspect that I can relate some experiences.

It is a well-known fact that the lower animal and the human being are afflicted with the same surgical ailments. The same vital processes in their various phases have been shown to exist in the tissues of all animals during disease as well as during the stage of repair of healing. Therefore, it would appear but natural that surgical procedures, whenever possible, should be carried out first upon the lower animal rather than upon the human being. This close relationship between the two imposes such an obligation upon all beginning the practice of surgery.

We cannot appreciate the value of experimental surgery upon animals until we have discontinued such work upon animals for a long time, or when suddenly called upon to perform some delicate operation that does not present itself daily. By this work we could have perfected ourselves for undertaking any kind of surgery at any time. With all the objections to vivisection given an unbiased hearing, if you were to cite only one death of a human being due to a lack of experience on the part of the surgeon, which experience could have been acquired by animal experimentation, any judge would render a verdict in favor of vivisection. The surgical experience acquired by work upon animals undoubtedly stimulates acumen and dexterity and inspires self-confidence.

According to the assertions of experienced surgeons, an operation upon a human being is ordinarily much more simple than upon an animal, such as a dog, because of the greater space afforded for manipulations. The technic in detail, however, is practically a repetition of the experimental work as performed upon animals. The main responsibility that burdens the surgeon is in operating upon a human being, and by consistent work upon animals, confidence comes to the front and vanquishes any temerity or nervousness that may have been occasioned by such responsibility.

Through this work we have improved our surgical procedures upon the brain, nervous system, vascular system, etc. We have even gone further and accomplished transplantion of bone and of various organs. In fact, nearly all surgery owes its origin to early animal experimentation. Of course, many morbid conditions found in earlier days during exploratory operations upon the abdomen, such as appendicitis, ulcers of the stomach, peritonitis, typhoid perforation and gall-bladder disease, have required more or less experimental intervention on the part of the surgeon. But of late years animal surgery has aided even here in the perfection of the operative technic.

Such work upon animals has been conducted for the past two years by Dr. A. H. Bernstein, myself and others, and it has given us a great deal of satisfaction. We have been convinced that too many young men having surgical ambitions, but no especial aptitude or experience, thrust themselves forward as surgeons without ever having attempted to practice upon animals for their preliminary knowledge, and without ever having distinguished between the values of human and lower animal life. There are altogether too many human sacrifices made at the beginning of his career by the would-be surgeon, and these may have been avoided by previous operative practice on animals.

We will now take up the various pre-requisites for this work. First of all it is necessary to have a room wherein the animals are to be confined, and also a kennel or recuperating room to which they can be transferred immediately after operation. The floor of this kennel is so arranged as to allow its being moved upon rollers. By this arrangement it can be removed, the animal placed thereon, and returned to its former position into the kennel. There the dog remains until it recuperates sufficiently to allow dismissal into the open room with the others.

An operating table is, of course, required. There are various kinds in use; the one we employ, kindly loaned to us by a Scranton veterinary surgeon, has every good feature, and closely resembles the latest model operating tables in our hospitals, although on a smaller scale. It can be raised or lowered at either end, or revolved, as the exigencies may demand. Its top is concave and covered with zinc, and has steel hooks at the sides, to which the dog's extremities can be fastened, straps made from hemp rope or heavy tape being used for this purpose. A strap is also tied around the dog's jaws for safety from biting.

With a very small animal [illegible] just before the operative procedure chloroform is administered by the drop method, care being taken that the animal is well anesthetized before starting. Of course the usual precaution to [illegible] aseptic and antiseptic preparations.

We have established some rather [illegible] surgery during our recent service at the [illegible] Scranton. The mortality in our surgical work in the past has been greatly reduced [illegible] animal experimentation, to which we had committed ourselves for approval [illegible]

We have often undertaken upon these animals such operations as ligation of bowel, gastroenterostomies, partial gastrectomies, colonic fixation, splenectomies, removal of gall-bladder, nephrectomies, partial and complete thyroidectomies, etc. These various operations have been performed repeatedly upon dogs, which were watched and taken care of until complete recovery had taken place. Frequently we have performed several operations upon the same animal.

You all well know the methods and technic employed in these various operations, and I consider it unnecessary to burden you with a description in this paper. I can assure you, however, that [illegible] animal is [illegible] of the operator, and will enable him to undertake his work upon the human body with such skill, deftness, courage and assurance as would otherwise be acquired only by a vast practical experience. Such has been our practice during the past two years, and would attribute a great deal of our success at the State Hospital [illegible] with a mortality less than three per cent. in a variety of dangerous and [illegible] to the continued experimental surgery upon dogs.

[illegible] I have impressed upon you all the importance of surgical experimentation upon animals and its relation to surgery upon the human being, I thank you for your kind attention.

It naturally would follow that the medical [illegible] of the University of Maryland and the College of Physicians and Surgeons should merge, [illegible] the meeting on these two [illegible] of medicine—and this has already been accomplished. Hereafter there will be but one medical society, the [illegible] Medical Society of the University of Maryland and the College of Physicians and Surgeons. Meetings will be held on the third Tuesday of each month, and the places of meeting will rotate. The November meeting will be held in Chemical Hall, University of Maryland; in December in the Amphitheater at the College of Physicians and Surgeons; and in January at the Baltimore Medical College.

In this and other ways the interest of all our alumni should be increased and the meetings come to be of great value to the profession. Although the policy will be to offer ample opportunity to members of the profession in Baltimore to bring before the society papers of unusual interest, distinguished men from remote places will be invited to participate from time to time.

The holding of the meetings at the three above-mentioned places will allow of the presentation of interesting cases from the clinics of the various hospitals.

The following officers have been elected for 1915-1916: Chairman, Dr. Albert Hynson Carroll; vice-chairman, Dr. Elmer B. Freeman; secretary, Dr. Alexius McGlannon.

Dr. Ejnar Hansen, class of 1904, who is located at 221 West Fifty-seventh street, New York City, writes as follows:

[illegible] 23, 1915.

"Dear Dr. Winslow:

"Inclosed my subscription for the next year. It is always a pleasure to look over THE BULLETIN and get the news from the old Alma Mater. New names come in all the time, but there are always some of the old ones that bring back lots of memories. I want to come [illegible] and look the old place over again, but am afraid there are so many new changes that it will be impossible to recognize it again.

"My best regards to you and all old friends. Sincerely yours, EJNAR H[illegible]

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Editor . . . . . NATHAN WINSLOW, M.D.

BALTIMORE, NOVEMBER 15, 1915.

LET US LIST YOU.

Knowledge that you have used your time and talents to the utmost is satisfying. Though others pass your efforts by without comment, there is no greater satisfaction in the world than the self-contentment arising from work well done. Yet everyone of us has a streak of vanity. Praise of our fellow-man is both sought and appreciated. This spirit of egoism is carried even to the grave, there being ever present throughout life the craving that those left deem our efforts during life sufficiently meritorious to warrant perpetuating our memory by some sort of a memorial. Having these facts in view, as well as realizing that the efforts of the lamented Prof. David Streett were of more than ordinary merit, some of his friends have initiated a campaign to raise funds for a David Street Memorial Scholarship. The subscription list is already open. Three thousand dollars are needed. Let us list you.

THE DAVID STREETT MEMORIAL SCHOLARSHIP.

We are pleased to announce that the movement to establish The David Streett Memorial Scholarship has met with a favorable reception, and that the following persons have subscribed to the fund:

Randolph Winslow	$10
Thomas A. Ashby	10
Robert P. Bay	10
Arthur M. Shipley	15
James M. H. Rowland	25
Samuel K. Merrick	25
Ridgely B. Warfield	25
John Salles, New Bedford, Mass.	5
J. D. Harnett, Winsted, Conn.	10
J. H. Judkins, Northfield, Vt.	10
	$145

CORRESPONDENCE

WESTWARD HO!

IV—FROM SAN FRANCISCO TO SAN DIEGO—THE SAN DIEGO FAIR—BACK TO LOS ANGELES—HOMEWARD BOUND.

We left San Francisco at 8 o'clock Sunday morning, June 27, en route for San Diego. The distance is about 600 miles and it is an all day and all night journey. It was a pleasant trip passing through the beautiful Santa Clara Valley, golden with the ripening grain, then across a mountain range to the coast at Santa Cruz, and down to charming Santa Barbara, reaching Los Angeles in the evening. Changing to the Santa Fé road, we took a sleeper and woke up in San Diego the next morning. San Diego is a beautiful city of 80,000 population, situated on a splendid land-locked bay of the same name. It is only a few miles from the Mexican border, and daily excursions are made to Tia Juana, even in these parlous times. Across the bay from San Diego is Coronado, where there is a United States naval station, at which were a number of destroyers and other war craft, while flying through the air or skimming over the placid surface of the bay aeroplanes or hydroaeroplanes added still other warlike features to the scene. Coronado Beach is a waterside resort at which the ordinary conventionalities of life are to a large extent omitted. The frequenters dwell in tents and dress chiefly in bathing suits, and apparently live the simple life. For those who prefer more formal, as well as more expensive, surroundings the magnificent Coronado Hotel offers unsurpassed facilities. The climate here is semi-tropical and hot, and, as but little rain falls, the country is arid; if water is brought to the land, it blossoms as the rose. This is exemplified by the exposition that is being held at San Diego at this time. The site of the Panama-California Exposition was a barren expanse of rocky desert only three years ago; now it is a beautiful park with trees and flowers and hillsides covered with dense foliage.

struck, caused an attractive-looking young girl, known as Sunbonnet Sue, to tip over in her [illegible] and [illegible] that are not usually exhibited. Up the coast along the beach is Santa Monica, which is the home of Nat Goodwin, and where there is an attractive café pavilion on the pier owned by Nat Goodwin. We got an excellent supper here. Another trip was to the Universal City, where there is an extensive settlement and outfit for making moving picture plays. Actors and actresses were wandering around in costume and playing their parts in turn. On July 1 we turned our faces homeward. Leaving Los Angeles at 3 P. M. by the Southern Pacific Railroad, we passed through beautiful towns with the houses embowered in roses and vines and with well-kept lawns, and through orange and lemon groves. It was a veritable garden of the Lord. In two hours we were in an absolute desert, no vegetation, arid and desolate. The Imperial Valley is below sea level and is excessively hot; fortunately, we traversed it in the night and escaped its discomforts. We reached Tucson, Arizona, early the next morning, and spent the day there. This is a pretty town of possibly 25,000 population. The weather was fiery hot, but the air was dry and the heat was endurable. There is not much to be seen here, except a very creditable State university for a new State with a small population. A drive of 10 miles over the desert brought us to St. Francis Xavier Mission, said to be 384 years old, which is in charge of a few Catholic sisters who devote themselves to the temporal and spiritual uplift of the Indians, who live in squalid villages on the reservation near the mission. The Sisters were cheerful and seemed to enjoy their life and work thoroughly. One day in Tucson was enough, and we were glad to take the midnight train for El Paso, reaching that place at 8.30 the next morning. We spent the day at El Paso, which is a fine modern town on the Rio Grande opposite Juarez, Mexico, with which it is connected by an international bridge. We reached El Paso the day Huerta and Carranza were arrested. The city was thronged with Mexicans, who were mostly an evil-looking lot and who were evidently bent on mischief. We took the trolley to Juarez, which is a typical Mexican town, squalid and dilapidated looking. It was in charge of Villa, and [illegible] with hatred toward [illegible]. The Americans were rather looking and unsmiling, and, prudence proving to be the better part of valor, we cut our [illegible]

short and returned to a more genial clime. Fort Bliss is a large army post at El Paso, where Mr. Huerta is enjoying the hospitality of Uncle Sam free of cost. Sitting in the plaza or public square, I overheard United States soldiers discussing the Mexican situation and expressing the opinion that they would have to go into Mexico sooner or later, and that the sooner they did so the better they would like it. July 4 was Sunday, and we spent it en route for New Orleans, passing through a barren, desolate country which improved as we approached San Antonio. We spent two and one-half hours in San Antonio and visited the Alamo, where a small band of Texans held out against ten times their number of Mexicans for nearly a month until they were all killed or massacred. The population of San Antonio seemed to be very much mixed—negroes, Mexicans and whites. Another night on the train and we were at Houston. The country was no longer desert, but was well watered and with abundant vegetation. This was a region of rice fields, low, swampy lands and humid atmosphere. Crossing the Sabine River, we came into Louisiana and reached the Mississippi River late in the afternoon. The mighty river was crossed on a steamboat, and we reached New Orleans in time for supper. We were handsomely entertained by friends and were shown the various points of interest in and around the city. The weather was hot and humid and we suffered more than we did in Arizona. We therefore remained only 24 hours in New Orleans, and took the night train on July 6 for Baltimore via Chattanooga, and without further incident reached home at 9 o'clock, July 8. We had made a tour from the Atlantic to the Pacific and from the Great Lakes to the Gulf without accident or discomfort.

RANDOLPH WINSLOW.

ITEMS

Dr. William Culbert Lyon, class of 1907, Assistant Surgeon, U. S. N., who for the past two years has been stationed at Galveston, Tex., in charge of the new recruiting district of the United States Navy in Southeastern Texas, stopped off in Baltimore recently on his way to New York to visit his mother. He was the guest of Mr. Edgar A. Vey, and was warmly greeted by old friends.

Dr. Randolph Winslow, who has been attending the meeting of the Council of the American Medical Association, held in Chicago November 4 and 5, has returned to his home.

Dr. Robert B. Hill, class of 1915, one of the resident physicians at the University Hospital, who was operated on recently for appendicitis at the University Hospital, is up and about again.

Miss Mary E. Rolph, class of 1895, announces that she is now engaged in hourly nursing. As formerly, she can be reached at the University of Maryland Nurses' Club, 21 N. Carey street, Baltimore. The BULLETIN is glad to hear that a University nurse has decided to take up this line of nursing, as it is a feature which has been heretofore neglected. We wish Miss Rolph much success.

Dr. David Silberman, class of 1912, desires to announce the opening of an office at 1729 Linden avenue. His practice is limited to gynecology and abdominal surgery. Telephone, Madison 85. Consultation by appointment.

The following letter was written by Dr. Cullen after receiving a copy of the October, 1915, issue of THE HOSPITAL BULLETIN, in our opinion the strongest number we have ever published:

"November 2, 1915.

"Dr. Nathan Winslow, Baltimore, Md.:

"My Dear Dr. Winslow—I appreciate very much your kindness in sending me THE HOSPITAL BULLETIN of the University of Maryland. It is certainly most attractively gotten up, and contains a great deal of interest.

"With kindest regards,

"Faithfully yours,

"(Signed) THOMAS S. CULLEN."

On October 28-29 practically all the negro insane about 200 at Bay View Asylum were transferred to the Crownsville State Hospital, of which Dr. Robert P. Winterode, B. M. C., class of 1900, is superintendent.

Mrs. Margaret LeSeur, University Hospital Training School for Nurses, class of 1900, has accepted the position as supervisor of nurses at

Md.

trained nurses in the Public Health Work, tuberculosis department.

appendicitis, is making

N. J., has severed his connections with the Thirty-seventh street.

Dr. James J. Carroll, class of 1893, desires to announce the removal of his office from the Building to 405 North Charles street. Consultation hours, 9 A. M. to 1 P. M.

Dr. Harry Lyman Whittle, class of 1903, announces the opening of his office, laboratory and operating rooms for diagnosis, study and treatment of diseases of infancy and childhood at 5 East Mount Royal avenue. Consultation hours, 2 to 5 and by appointment. Telephone, Mt. Vernon 75.

Miss Ellen C. Israel, University Hospital Training School for Nurses, class of 1910, has resigned her position as assistant superintendent of the Emergency Hospital, Annapolis, Md., and will engage in private nursing. She is located at 1403 Madison avenue.

Miss Eva S. Chapline, University Hospital has been confined to the hospital with malaria, is much improved.

Major Roger Brooke, Jr., B. M. 1904, who has been on duty at the General Hospital at the Presidio of San worth, Kansas, where he now

The initial smoker of the season of Chapter of the Chi Zeta Chi Fraternity of the University of Maryland was held Saturday October 16, at the Fraternity House, 910 Mecommodore.

Health Commissioner John D. Blake, P. and S., Jr., class of 1889, the new Assistant Commissioner of Health, made their first visit of inspection on to Sydenham, the municipal hospital for infectious diseases. They are acquainting themselves with the workings of all the divisions and sub-divisions of the department.

Mr. J. Bruce Arnold, Jr., a former student at the University of Maryland Medical School, who went to Serbia last summer to work in the Serbian Red Cross, has sent the following home:

"Losnitza, Sept. 16, 1915.

"Dear ———: At last I have arrived at my destination, this wonderful city. We had a two-day stay in Nish. We spent a week getting a supply of drugs and finding interpreters. We finally secured both, and on the day we started from Nish the War Department discovered that our interpreters were born in Austria, so we could not take them in the war zone. We left Nish without interpreters, using what German, French and Serbian we knew.

"When we got to the first station to change cars we discovered that our baggage was lost and decided to go no further without it. We met a Serbian in the station who spoke English. He was interpreter, he said, for the English 'mission,' and invited us to spend the night there. We went and discovered the English mission to be a Scottish women's hospital unit, with not a man in camp except the patients, cook and interpreter. They all seconded the invitation to stop with them, so we stayed.

WOMEN ARE THE DOCTORS.

"The whole outfit consists of two hospital wards, 20 men in each, and about six tents to live in. There were three women doctors and 10 nurses. They are doing excellent work, wards are well equipped, bacteriological laboratory, etc.

"In the afternoon six nurses, Dr. S. and myself went for a horseback ride to the famous battlefield where the Austrians were repulsed and

30,000 prisoners were taken. It was wonderful—shells, caps, bones and such things all around and in the trenches. The same night we had a card party. There were Serbian officers, French officers and the Scottish nurses and the members of the British ambulance corps there. We played progressive whist. Once I was at a table with a Serbian officer, a French nurse and a Russian nurse, and no one of these understood the language of the other. It was great fun.

"Much to our surprise, our baggage turned up the next morning, so we proceeded to ———— on a cute little pocket edition railroad, and some time that day got to Valievoe. Nothing exciting occurred there, and the next morning we took a train for Obrenovatz, a small town on the Save. We spent the night there, and the next day drove to Schabatz. The road winds along the river Save, the northern boundary of Serbia, and we were compelled to make a two-hour detour because of the artillery fire in one place, somewhat exciting, to say the least.

HAVOC AT SCHABATZ.

"Finally, after a 10-hour drive, we got to Schabatz. The destruction here is terrible. It is truly the 'deserted village,' formerly a town of 30,000, now about 700. I don't believe there are 50 houses unharmed by shells. The whole city is in ruins, resembling Baltimore's burnt district after the fire of 1904. It was the first place invaded by the Austrians. We spent the night there and at 7 A. M. left by rail for Losnitza and got there at 11 o'clock. Here it is the same story: over half the town in ruins and 700 people left of 3000 normal population. The town is well protected, though, with heavy artillery and efficient infantry. However, my clothes are put in order at night so that I can jump right into them at any moment. I also have handy a little kit, where I keep my razor, etc., with a small alcohol stove, alcohol, matches, tea and bouillon cubes and a heavy blanket. There is no telling just when it will come handy. Dr. S. and myself went to Krupany. We stayed there three days, living in the officers' quarters. We started off at 6 A. M. one day on horseback and went up into the mountains along the border, where the artillery and infantry are established.

SOLDIERS AS SANITARY WORKERS.

"I am going to have lots of work here. The Prefect of my district says it has a population of 20,000. I have to vaccinate all against typhoid, typhus and cholera, and each disease requires three inoculations. This morning 24 patients called. Imagine my job with no interpreter! I told the commanding officers of the sanitary conditions here, and today have 300 soldiers cleaning up the town. There is enough work here to last a couple of years. I wrote to the Minister of the Interior requesting to be supplied with equipment for a hospital, and if he supplies it I think I shall stay. The Minister of War spoke to me about entering the army service at the end of my time, but I hardly think I will, as the civil work is broader and I am not hampered by any military rank. The Serbians certainly do treat us all right. When traveling they all do what they can to help you.

"I bought a camera in Nish from a Columbia man who was ready to go back. The Serbians will allow us to take pictures, but we cannot send them out of the country yet. I am waiting now for some films which I ordered in Athens. They will not allow us to take pictures of the trenches or the soldiers in them. In one place we wanted to photograph an artillery intrenchment, but were not allowed; also the place is not mentionable."

Dr. Maurice E. B. Owens, class of 1910, who has been at Long Lake, Washington, has returned to Baltimore. He is located at 1518 Poplar Grove street.

Dr. Charles E. Terry, class of 1903, has moved from 118 West Adams street to the City Engineers' Building, Jacksonville, Fla.

Dr. James B. Parramore, class of 1909, who has been located at 17 West Church street, Jacksonville, Fla., has moved to 341 St. James Building, that city.

Dr. N. E. Berry Iglehart, class of 1889, of 1008 Cathedral street, has been enjoying a week's fishing at the Woodmount Gun Club.

Dr. Nathaniel G. Keirle, class of 1858, chief of the Pasteur department at Mercy Hospital, celebrated his eighty-second birthday on October 10. He spent the day attending to his medical duties

and visiting among his friends. Dr. Keirle, [illegible] probably the most active medical man in Maryland. He is city pathologist, physician to [illegible] and consulting director of the Pasteur department at the Union Hospital.

Dr. Henry O. Reik, class of 1891, and Mrs. Reik, who have been touring in the West for the last five months, have returned to their home at [illegible] Dr. Reik brought home a unique collection of pictures, showing in their true colors the Yosemite Valley, the Yellowstone and other National parks and the great Panama-Pacific Exposition.

Friends of Dr. John S. Spearman, College of Physicians and Surgeons, class of 1912, who is now [illegible] in the European war zone, have just heard an interesting story, in which the doctor and the daughter of a German nobleman are the principals.

This story was brought to New York recently by travelers returning from the war zone, and it has to do with the fact that in January next Dr. Spearman is to marry Fraulein May von Raczek, whose father is a major in the German Army, holding a title of nobility in his fatherland.

These travelers tell a romantic story of the [illegible] affair. They say that Fraulein von Raczek was a nurse in the same hospital in which the young Baltimore physician was stationed. Dr. Spearman, so the romance goes, was supposed to talk a great deal of German and to write the histories of his cases in German. He was not quite up to style in this language and so he called upon Fraulein von Raczek to help him. The [illegible] liked the pupil and the pupil liked the teacher. Then came the romance, or at least the reported romance.

Dr. Nathan R. Gorter, former Health Commissioner of Baltimore city, recently qualified in the Superior Court as a member of the State Board of Health, to which he was appointed by Governor [illegible] some time ago. Dr. Gorter named his successor as Health Commissioner.

Dr. Elmer Hall Adkins, class of 1905, has moved from Rosemary, N. C., to Rochester, Minn.

The following were visitors to the University during the past month:

Dr. C. V. Depillis, class of [illegible] of Lonaconing, Md.

C. H. Metcalfe, class of 1914, of Sudlersville, Md.

A. M. Mitchell, B. M. C., class of 1913, of West Union, W. Va.

B. H. Guistwhite, class of 1914, of Lykens, Pa.

W. P. Clancey, B. M. C., class of 1910, of Warren, Pa.

Samuel Luther Bare, class of 1905, of Westminster, Md.

Charles V. Goetting, Jr., class of 1910, of Middleburg, Va.

Walter B. Kirk, class of 1893, of Darlington, Md.

Jacob W. Bird, class of 1907, of Sandy Spring, Md.

Hamilton J. Slusher, class of 1913, of Boissevain, Va.

James T. Billingslea, class of 1905, Elvaton, Md.

Ralph C. Bowen, class of 1907, of Grantsville, Md.

Thomas J. Coonan, class of 1891, of Westminster, Md.

C. D. Hamilton, P. & S., class of 1913, of Sykesville, Md.

Robert E. Abell, class of 1912, of Chester, S. C.

Charles T. Fisher, class of 1901, of Princess Anne, Md.

J. Edward Hubbard, class of 1912, of Hinton, W. Va.

Thomas Brooks, class of 1910, of Santiago, Cuba.

Eugene W. Hyde, class of 1892, of Parkton, Md.

John W. Hebb, Jr., class of 1901, of West Friendship, Md.

George C. Coulbourn, class of 1910, of Marion Station, Md.

Wm. Frank Lucas, class of 1893, of Sykesville, Md.

George H. Hammerbacher, class of 1894, Baltimore, Md.

C. W. Roberts, class of 1906, of Douglas, Ga.

The Adjutant General of the Maryland National Guard has announced the result of the recent correspondence course for the medical offi-

cers in the Guard. The ratings obtained by the officers who took the course were as follows:

Major S. Griffith Davis, class of 1893, 88.55.

Major J. Harry Ullrich, B. M. C., class of 1897, 04.18.

Major Herbert C. Blake, B. M. C., class of 1905, 86.69.

Captain J. Charles Madara, P. & S., class of 1893, 85.09.

Captain G. Milton Linthicum, P. & S., class of 1892, 87.05.

Captain John C. Stansbury, class of 1912, 88.05.

Captain William J. Coleman, class of 1908, 96.40.

Captain Herbert Schoenrich, class of 1907, examined as a first lieutenant and commissioned captain subsequent to the close of the examination, 90.36.

Major Robert P. Bay, class of 1905, chief of the Medical Corps, was excused from taking the examination and reviewed all the papers. Captain Fred H. Vinup, class of 1909, was on leave and will take the examination later. First Lieutenant Fred H. Rankin, class of 1909, did not take the examination, having tendered his resignation.

Miss Stella W. Ricketts, University Hospital Training School for Nurses, class of 1911, who has been at her home in Kane, Pa., for several months, has returned to 1403 Madison avenue.

Miss Jennie R. Garner, University Hospital Training School for Nurses, class of 1911, has resigned her position as superintendent of the Emergency Hospital, Easton, Md. Miss A. E. Butts, class of 1913, assistant superintendent, has tendered her resignation.

Dr. Richard H. Johnston has been appointed clinical professor of bronchoscopy and esophagoscopy.

BIRTHS

To Dr. Louis Cotton Skinner, class of 1901, and Mrs. Skinner, of Greenville, N. C., October 16, 1915, twins—Louis Cotton, Jr., and Edward Bicklin.

MARRIAGES

Dr. John S. B. Woolford, class of 1896, of Chattanooga, Tenn., formerly of Cambridge, Md., to Miss Eliza Leiper Winslow, daughter of Dr. and Mrs. Randolph Winslow, of 1900 Mount Royal Terrace, Baltimore, Md., at Baltimore, October 23, 1915.

The ceremony was performed at 7 o'clock P. M. at Memorial Protestant Episcopal Church by the Rev. Dr. William Page Dame, and was followed by a reception at the residence of the bride's parents. The matron of honor was Mrs. Harry D. McCarty of Baltimore, and the bridesmaids were Miss Mary Frances Leiper, of Philadelphia, and Miss Elizabeth H. Bartlett, Miss Mary Lowndes Owens and Miss Helen Corse, of Baltimore.

The bride, who was given in marriage by her father, wore a beautiful costume of white satin combined with tulle and lace, and her tulle veil, which fell to the end of a court train, was edged in the same lace which belonged to her maternal grandmother. Her flowers were a shower of lilies of the valley. The matron of honor was gowned in a dainty costume of lavender taffeta with touches of ecru lace, made with full pannier effect. She carried lavender hyacinths. All of the bridesmaids were gowned alike in changeable yellow and pink pussy willow taffeta, with an overskirt effect of ecru lace, and carried yellow roses.

Mr. Cator Woolford, of Atlanta, was his brother's best man, and the ushers were Mr. Caleb Winslow, Mr. George L. Winslow and Mr. Oliver P. Winslow, brothers of the bride, and the following from Chattanooga: Major Bass, Major Wiley and Dr. Henry Johnson. Following the reception, which was from 8 until 10 o'clock, Doctor and Mrs. Woolford left for a Northern wedding journey. They will make their home in Chattanooga.

Dr. Charles Percy Noble, class of 1884, of Chestertown, Md., to Miss Elizabeth M. Scanlan, of St. David's, Pa., at Towson, Md., October 7, 1915.

Dr. Julian Mason Gillespie, Assistant Surgeon, U. S. P. H. S., class of 1909, formerly stationed

Dr. and Mrs. Gillespie will be at home to their friends after December 1st, [illegible] West [illegible] street, New York.

DEATHS

Dr. Lawrence Orr McCalla, College of Physicians and Surgeons, class of 1891, a retired practitioner of Starr, S. C., was shot and killed by his wife's brother, October 9, 1915, aged 52 years.

Dr. Harry Oliver Lightner, Baltimore Medical College, class of 1866, also a druggist, of Marysville, Pa., died at his home January 5, 1915, as the result of a nervous breakdown, aged 43 years.

Dr. Edmund C. Rivers, class of 1879, of 1632 [illegible] Denver, Colo., a well-known specialist on diseases of the eye and ear; president of the board of trustees and professor of ophthalmology in the Denver and Gross College of Medicine, Denver; vice-president of the board of directors and consulting oculist to the Denver Maternity and Woman's Hospital Association, was drowned while hunting in Barr Lake, near Denver, October 24, 1915, in an unsuccessful effort to save the negro caretaker of the club from drowning, aged 57 years.

Dr. Raymond Claude Fout, class of 1[illegible], Kemptown, Frederick county, Md., died at the Baltimore Eye, Ear and Throat Hospital, November [illegible], 1915, a short while after being brought there from his home to undergo an operation for throat trouble, aged 37 years. Dr. Fout was a member of the Frederick County Medical Society.

Dr. C. H. Fultz, P. and S., class of 1[illegible], Vanceburg, Ky., died at his home September 3, 1915, aged 39 years.

Dr. Orson Pope Kingsley, B. M. C., class of 1907, of Brush, Colo., a veteran of the Spanish-American War, with service in the Philippines, died in a hospital in Denver, September 23, 1915, aged 36 years.

Dr. Homer [illegible], B. M. C., class of 1[illegible], P. and S., class of 1910; died at his home in Huntington, W. Va., July 4, 1915, from cerebral hemorrhage, aged [illegible] years.

Dr. Joseph R. Hunt, Physicians and Surgeons, class of 1888, of Laurel, Md., died at his home in Laurel, from paralysis, October 19, 1915, aged 50 years. Dr. Hunt was a director of the Citizens National Bank of Laurel and was Mayor for one term.

Dr. Charles C. Taggart, class of 1887, of Marshfield, Ore., died at his home September 11, 1915, aged 49 years.

Dr. J. W. Alexander, B. M. C., 1894, died at his home in Oakland, Cal., October 2, 1915, aged [illegible] years.

Dr. John Dickson, class of 1852, for many years a practitioner of Baltimore but for the last 25 years a resident of California, died at his home in San Francisco, September 15, 1915, from senility, aged 84 years.

Dr. Edwin D. Schaeffer, Baltimore Medical College, class of 1893, one of the leading physicians of Reading, Pa., died suddenly at his home, 317 South Sixth street, October 22, 1915, from blood poisoning, aged 47 years.

Dr. Schaeffer was a native of Bowers, being employed as a telegraph operator during his early years. Later he became the ticket agent at Bowers Station. He graduated from the Baltimore Medical College and later moved to Reading and established himself on South Sixth street, where he resided during the past 22 years.

He was conceded to be one of the best medical authorities in town. He had a large practice in the southern section of the city. Seven years ago he was elected a member of the School Board.

The new school code causing the board to be composed of but nine members had not been enacted at that time. From a large field Dr. Schaeffer was selected and re-elected as a member. He was a member of the committee on supplies, property and sanitation, playgrounds and teachers' retirement fund.

He was a most ardent fisherman, and his chief

source of recreation was in the use of the rod and line.

He was married to Miss Essie Humbert, daughter of the late Rev. Duquesne Humbert, of Bowers, and, besides his wife and one daughter, he is survived by his mother and a sister, Mrs. E. D. Westcott, of this city.

He was prominent in local Shrine circles, being a member of Reading No. 62, F. & A. M. Lodge of Perfection, the Philadelphia Consistory and Steffy Council. He was also a member of the Liberty Fire Company.

BOOK REVIEWS

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A. Volume I. Twenty-fourth Series. 1914. Philadelphia and London: J. B. Lippincott Company. Cloth, $2 net.

Volume I of the Twenty-fourth Series of International Clinics is replete with interesting, useful and helpful articles. No matter where one opens the book, one is sure to find something practical and valuable in one's practice. Amongst the most important articles may be mentioned The Treatment of Nephritis, by Robert N. Wilson; Cardiovascular-Renal Regulation by Other Means Than Drugs, by J. Madison Taylor; The Importance of Frequent and Thorough Medical Examination of All Citizens, by Victor C. Vaughan, and The Prophylactic Treatment of Rheumatism, by N. S. Davis.

In his essay on Drugless Cardiovascular-Renal Regulation, Davis says: "Treatment of cardiovascular disorders, to effect cure, should be initiated so early in stages of evolution as to amount practically to prevention. Since there are no characteristic early symptoms, reliance must be placed on rational forms of living and prompt recognition of dangers in neglecting evidences of certain functional disturbances. Hence the key to best results lies in making clear the perils of faulty personal conduct, and also the importance of expert guidance and control throughout life. Until mankind becomes aware of the deep significance and economic value of medical supervision when in health, and of prompt consultation when even slightly out of health, this conservation cannot be effected.

"When blood pressure is found to be abnormally high, we are confronted with either temporary or acute disturbances which demand prompt precautionary and remedial measures. When this phenomenon appears in persons otherwise vigorous, especially toward or after middle life, it may, and usually does, indicate structural changes in the blood vessels pointing to advanced disease."

Among the measures he recommends for these disorders are education in mind control, respiratory education, regulated movements, mechanical stimulation by pressure, skin friction, colonic irrigations, hydrotherapy, blood-letting and regulation of diet. In advising venesection the author states: "Bear in mind that a weak radial pulse is no contraindication, rather the one plain signal to relieve the overburdened heart."

However, each article contains something which should appeal to the general practitioner.

International Clinics. A Quarterly. Edited by Henry W. Cattell, A.M., M.D. Vol. I. Twenty-fifth series. Philadelphia and London: J. B. Lippincott Company. 1915.

Here, as in the preceding numbers of International Clinics, are found a number of articles on live subjects to the profession. The volume opens with an article by Sir William Osler on "The Diagnosis of Polycystic Kidney" and closes with one by Dr. Cattell himself on "The Progress of Medicine During the Year 1914." Interspersed between these are a number of other articles which should interest the general profession.

International Clinics. Edited by Henry W. Cattell, M.D., Philadelphia. Philadelphia and London: J. B. Lippincott & Co. Cloth, $2 net. Twenty-fifth series. Vol. II. 1915.

The articles treated in the present number are on questions of interest to the profession as a whole. Diagnosis, treatment, etc., on such conditions as tuberculosis joint disease in children, brain injuries at birth, some new phases of emetive therapy, diagnosis and treatment of arteriosclerosis are of practical import to all practitioners. The present issue of the *Clinics* is replete with such articles.

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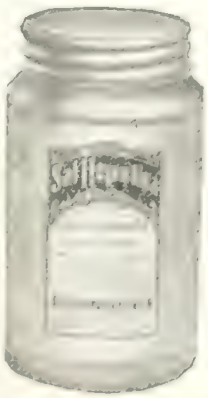

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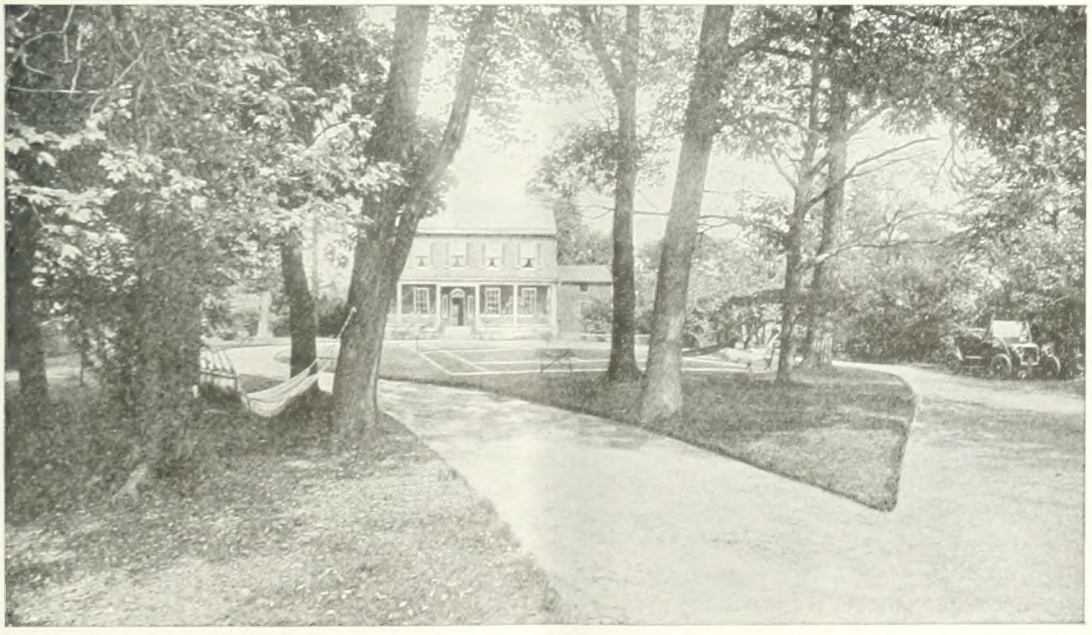

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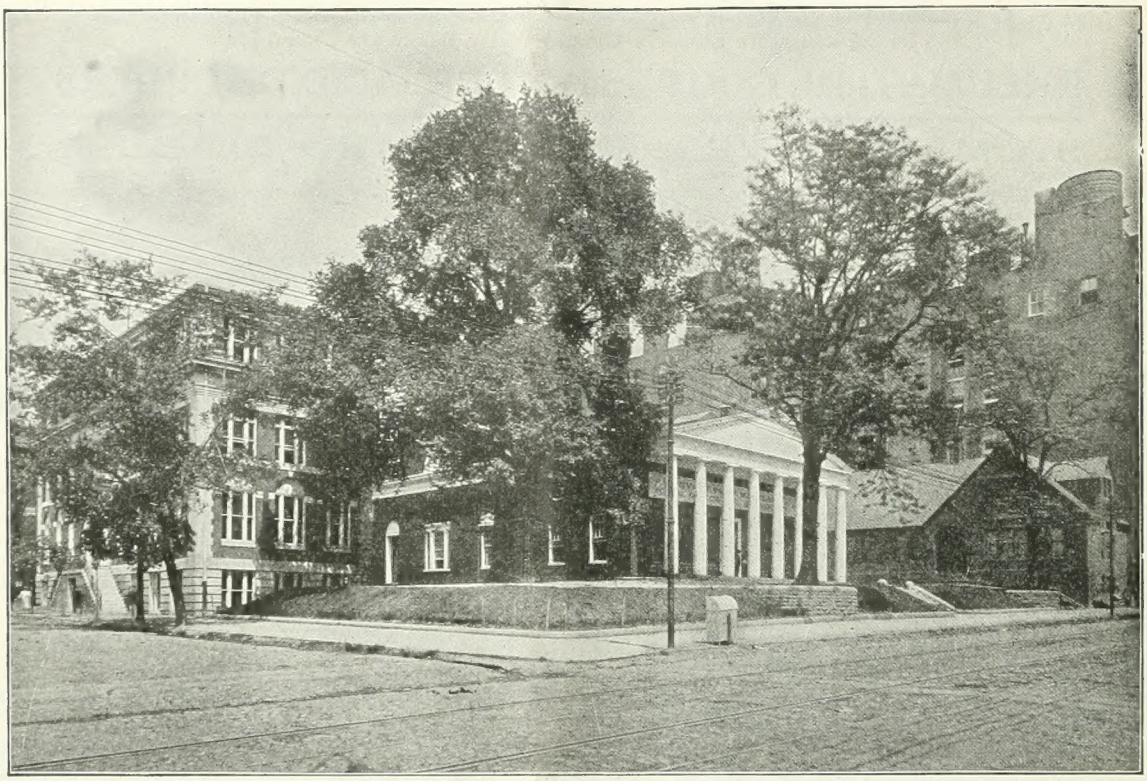

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